Ownership Matrix	**RPP-27195**

1.0 PURPOSE AND SCOPE

(5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.6, 5.1.7)

This standard applies to all Tank Operations Contractor (TOC) managed facilities, operations, and activities in which the disposal of rags and similar absorbent materials, or the storage of hazardous materials takes place. It applies to all used waste absorbent materials containing flammable or combustible liquids (including aerosols), pyrophoric metal fines, or oxidizers.

This standard also applies to the design and operation of TOC managed facilities used for the storage of hazardous material including flammable and combustible liquids, gases, corrosives, ignitables, reactive waste, oxidizers, water reactives, and radioactive materials.

See Section 3.8, which presents the principle logic used by TOC Fire Protection to determine the criteria and requirements for fire protection in hazardous material storage facilities).

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

3.1 For Used Waste Absorbent Materials

1. Waste generators will ensure that used waste absorbent materials are not stored in operating or waste generating facilities, except as permitted below.

2. Storage in “approved or listed” “Oily Waste Cans” is permitted for no more than one day.

3. A fire rated cabinet or room, used solely for this purpose, may be used to provide longer periods of storage (for more than one day).

3.2 For Hazardous Material Storage

This section provides design criteria, design requirements, and operational requirements for hazardous materials storage facilities. They apply to the design of facilities and operations for the storage of hazardous materials, including both product and waste in the following categories:

1. Ignitables (wastes in this category are regulated by WAC-173-303).

   - Oxidizers
   - Flammable Solids
   - Pyrophorics
   - Flammable Gases
   - Organic Peroxides
   - Flammable/Combustible Liquids (Classes IA, IB, IC, & II).

2. Reactives (wastes in this category are regulated by WAC-173-303).

   - Water Reactives
   - Unstable Materials.

3. Radioactive Materials.

4. Other Health Hazards.

   - Carcinogens
   - Corrosives
   - Toxics
   - Highly Toxics
   - Sensitizers
   - Other Materials.

3.3 Design Criteria and Design Requirements
(5.1.3., 5.1.4, 5.1.7, 5.1.8, 5.1.9, 5.1.10, 5.1.13)

Design criteria and requirements shall be interpreted and applied by WRPS Fire Protection Engineer deputized by the Hanford Fire Marshal. The criteria and requirements are graded according to the risks or hazards involved. The higher the risk or hazard, the more restrictive the application of the criteria and requirements.

1. Design and construction of hazardous material treatment, storage, or disposal facilities shall meet the International Building Code (IBC).

2. Application of IBC shall be as directed in DOE O 420.1C, "Facility Safety," DOE-ORP implementing procedure ENS-ENG-IS-05 MGT-ENG-IP-05, "ORP Fire Protection Program," and TFC-ESHQ-FP-STD-02.

3. NFPA 1, "Fire Code, and NFPA 400, Hazardous Materials Code," are the applicable NFPA standards for hazardous materials management plans within the Fire Protection Plan. These plans should be supplemented with FM Global Property Loss Prevention Data Sheets, as applicable.

   A statement that these criteria apply to all hazardous materials, products, and wastes should be included.

4. International Fire Code (IFC) is the applicable code to use for ignitable or reactive waste as defined by WAC 173-303-630.8(b), Washington Administrative Code Dangerous Waste Regulations.

5. All criteria and requirements for each mode of storage are applicable and cannot be dismissed.

3.4 Operational Requirements

1. Production Operations is responsible for complying with the requirements and limitations identified.

2. Production Operations authors, revises, or modifies operational procedures, as required, ensuring that compliance is maintained with identified criteria and requirements.

3.5 Operational Limitations

1. Operational limits (limitations) are the result of the choice of the design criteria and design requirements. Application of the less stringent criteria and requirements will mandate more control of storage practices.

2. The hazardous materials storage facilities are for storage only; dispensing or handling of materials in storage facilities is prohibited.

3.6 Operations Personnel Training

Operations personnel involved in the handling of hazardous materials shall receive training as described in TFC-PLN-07.

3.7 Standards for Hazardous Materials Storage Facilities

(5.1.8, 5.1.9., 5.1.10, 5.1.11, 5.1.12, 5.1.14, 5.1.15)

1. GENERAL (applicable to ALL storage facilities).

   - Construction is in accordance with the International Building Code (IBC). See Section 3.3.4 regarding use of IFC.
   - All indoor facilities shall be non-combustible, fire resistant, or fire rated construction in accordance with the IBC.
   - Separation distances between storage facilities and surrounding structures shall be per the IBC.
   - Non-combustible floor or deck.
   - Spill and drainage control and secondary containment.
   - Hanford Fire Department access and fire lanes in accordance with National Fire Protection Association Standard 1 (NFPA 1).
   - Hazard identification per NFPA 704 and NO SMOKING signs.
   - Portable fire extinguishers per NFPA 10.
   - Electrical installations in accordance with NFPA 70.

- GRADED (applied to specific facilities on a graded approach when the hazards evaluation indicates the risk/hazard as moderate).
- An automatic fire extinguishing system installed in accordance with NFPA 13.
- A fire alarm system in accordance with NFPA 72 and NFPA 1221 reporting to the Hanford Fire Department via a radio fire alarm reporter (RFAR).
- Building fire alarms for personnel notification.
- Building exhaust ventilation per the IFC and MGT-ENG-IP-05.
- Explosion control per the applicable referenced standards.
- A minimum of two fire hydrants located so the distance from the hydrants to the facility does not exceed 300 feet.

2. MANDATORY (applied when one or more of the criteria below is true). All the requirements in subsections 1 and 2 above become mandatory when:

- The facility or the storage area of the facility is greater than 400-square feet.
- Maximum possible fire loss is greater than $1 million.
- The hazards evaluation indicates that the risk/hazard is HIGH and the additional protection is warranted.
- Material Storage and Segregation Requirements (applicable to ALL modes of storage).
- Hazardous material storage shall be separated from personnel areas in accordance with the IBC.
- Hazardous materials shall be in containers that comply with the applicable standards. Only solid, bulk materials would be exempt from this if there is no immediate hazard.
- Hazardous materials that can cause environmental damage shall be located and protected to mitigate unacceptable environmental consequences.
- Incompatible materials stored indoors shall be separated by the required construction per the IBC.
- Incompatible materials stored outdoors shall be separated from each other per the applicable code requirements. Contact WRPS Fire Protection for identification of the applicable code requirements.
- Combustible Materials Accumulation Prohibited.

- Accumulation of combustible materials (packing/shipping cartons, papers, packaging materials, pallets, etc.) is prohibited within 30 feet of hazardous materials storage facilities

- Weeds and other vegetation are not permitted within 30 feet of hazardous materials storage facilities. Application of this requirement may call for a greater separation based upon criteria found in NFPA 1144, "Standard for Reducing Structure Ignition Hazards from Wildland Fire."

3.8 Special Guidance Information

1. Identification of Need.

   The need to store hazardous material will be identified by the responsible facility or operations organization and communicated to the fire protection engineer. This need will be made known as early as possible in the planning or design process to allow fire protection requirements to be effectively integrated into the overall storage facility design.

2. Requirements Determination.

   The fire protection engineer will perform the review of the needed storage facility. Key factors examined will include the following:

   - Quantity to be stored (Is it less than or greater than the exempt amounts?)
   - Size of the storage area (Is it over 400 square feet in size?)
   - Is the material product or waste?
   - Material characteristics (such as toxicity).

3. Application of Graded Approach.

   Based on the process identified in the flowcharts and the hazard evaluation process, the fire protection engineer will determine the specific design requirements, including operational limitations. The fire protection engineer is the authority for the decision on these requirements.

4. Design Requirements.

   The fire protection requirements determined using this procedural process will be communicated to the responsible facility organization and incorporated into the design and operational requirements in accordance with established engineering and operating procedures.

3.9 Inspection of Facilities Used for Treatment, Storage, or Disposal of Ignitable or Reactive Waste Materials

(5.1.7)

An inspection shall be performed at least annually as required by WAC 173-303-395(1)(d). Each facility is responsible for planning, scheduling, and performing this inspection of all 90-day dangerous waste accumulation areas (AAs) and Treatment, Storage, or Disposal (TSD) dangerous waste management areas (DWMAs) where ignitable and/or reactive waste is stored or could be stored at any time during the calendar year. WRPS Fire Protection shall be scheduled to

participate in this inspection to ensure compliance with WAC 173-303-395(1)(d). WAC 173-303-395(1)(d) requires a person familiar with the International Fire Code to participate in this annual inspection.

3.9.1 Facility Management Responsibilities

1. Inspect each 90-day accumulation areas, waste storage locations, and treatment, storage, and disposal (TSD) areas.

2. Complete the Ignitable/Reactive Waste Fire Inspection form (A-6006-996) for each area inspected and include:

   - The date and time of the inspection;
   - The facility representative (name printed and signed);
   - Notation of any observations made; and
   - Any remedial actions taken during the inspection.

3.9.2 Fire Protection Engineer Responsibilities

1. Prepare an Ignitable/Reactive Waste Fire Inspection form (A-6009-996) for the facility containing 90-day AAs, TSDs, or DWMAs.

2. Submit the prepared Ignitable/Reactive Waste Fire Inspection form (A-6009-996) to facility management prior to the scheduled inspection.

3. Inspect each 90-day AA, TSD, or DWMA.

4. Identify the FPE representative (name printed and signed) on the inspection form.

3.9.3 Facility Manager or Delegate and FPE Responsibilities

1. Inspect each 90-day AA, TSD, or DWMA.

2. Complete the prepared Ignitable/Reactive Waste Fire Inspection form (A-6009-996) for the areas inspected and include:

   - A notation of the observations made; and

   - Any remedial actions taken as a result of the inspection.

3. Give the completed Ignitable/Reactive Waste Fire Inspection form (A-6009-996) to the Environmental point of contact with copies to Facility Operations, FPE, and email the form to ^WRPS Scanning.

4. Enter any issues or findings resulting from this inspection as an Action Request (AR) via the integrated Contractor Assurance System (iCAS) in accordance with TFC-ESHQ-Q_C-C-01.

4.0 DEFINITIONS

No terms or phrases unique to this standard are used.

5.0 SOURCES

5.1 Requirements

5.1.1 10 CFR 851, "Worker Safety and Health Program."

5.1.2 DOE-STD-1066-2012, "Fire Protection."

5.1.3 DOE O 420.1C, "Facility Safety."

5.1.4 MGT-ENG-IP-05 R3, "Fire Protection Program."

5.1.5 WAC 173-303, Section 395(1).

5.1.6 WAC 173-303, Section 630(8) (a).

5.1.7 WAC 173-303, Section 630(8)(b).

5.1.8 International Building Code.

5.1.9 International Fire Code.

5.1.10 NFPA 1, "Fire Code™."

5.1.11 NFPA 10, "Portable Fire Extinguishers."

5.1.12 NFPA 70, "National Electrical Code."

5.1.13 NFPA 400, "Hazardous Materials Code®."

5.1.14 NFPA 704, "Identification of Hazards of Materials."

5.1.15 NFPA 1221, "Communications, Emergency Services."

5.2 References

5.2.1 NFPA 10, "Portable Fire Extinguishers."

5.2.2 NFPA 13, "Standard for Installation of Sprinkler Systems."

5.2.3 NFPA 70, "National Electrical Code®."

5.2.4 NFPA 72, "National Fire Alarm Code®."

5.2.5 NFPA 704, "Standard for Identification of the Hazards of Materials."

5.2.6 NFPA 1144, "Standard for Reducing Structure Ignition Hazards from Wildland Fire."

5.2.7 NFPA 1221, "Standard for the Installation, Maintenance, and Use of Emergency Services Communication Systems."

5.2.8 TFC-ESHQ-FP-STD-02, “Fire Protection Design Criteria.”

5.2.9 TFC-ESHQ-Q_C-C-01, “Problem Evaluation Request.”

5.2.10 TFC-PLN-07, “Dangerous Waste Training Plan.”